

Case Report

Amputation due to fishing net

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Abstract

Occupational injury is a major and often preventable health problem in a work environment. Every year around a million people are affected and thousands are killed in work related accidents.

Fishing as a sport and occupation is enjoyed and practiced by people of all age groups. Fishing related hazards and injuries are common but unreported. A fatal case of amputation of a limb caused by fishing net is described.

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1. Introduction

Occupational injury is a major cause of morbidity and mortality in the working environment. Each year, a large number of people are affected by traumatic occupational injuries in various parts of the world. Transport, construction, agriculture, forestry, mining and fishing are the major culprits in this regard and the effects may range from disease, disability and even death. Hazards from all occupational fields are widely known and reported with an exception of fishing and mining industries, mainly because of localized area distribution and unavailability of bodies.

Fishing practiced as an occupation as well as sport has the highest participation rate of any recreational or sport activity around the world. Commercial fisherman work is one of the world's harshest environments facing isolated seas, cyclones and cold water. Most of the equipment designed to catch and hold resisting fish are usually sharp and pointed. Thus, fishing related injuries can be either environmental or equipment related. Environment related hazards are mainly due to bad weather, drowning, hypo-

thermia, aquatic animals attack and being thrown overboard. Equipment related injuries can be due to fishing hooks, harpoons, fishing net and boat propellers.

Here, we present a case report of amputation and fatal trauma due to fishing net in a fisherman in the coastal city – Mangalore, India.

2. Case report

A fisherman aged 44 years went fishing in a boat with other colleagues. In the process of fishing, the deceased got entangled in a fishing net and sustained severe injuries. His left lower limb was completely severed from the body. He died at 1.15 p.m. on the way to hospital. Postmortem examination was done on the same day.

2.1. External examination

A moderately built and moderately nourished adult male measuring 173 cm in length and weighing 73 kg. Rigor mortis was present all over the body. Postmortem lividity could not be detected. A greasy material was present over the abdomen, back, upper and lower limbs.

The following antemortem external injuries, were present on the body:

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1. Vertically directed grazed abrasion measuring 20×15 cm over the anterior and lateral surfaces of left lower abdomen (Fig. 1).
2. Left lower limb amputated at the level of hip with disarticulation of the sacroiliac joint and symphysis pubis. The underlying muscles and vessels were lacerated (Figs. 1 and 2).
3. A reddish colored grazed abrasion measuring 65×9 cm over the medial surface of the entire left lower limb with adherent grease particles (Fig. 3).
4. Left leg amputated at the level of ankle joint, exposing the underlying lacerated muscles, vessels and ligaments. Both tibia and fibula were fractured at their lower one thirds (Fig. 3).



Fig. 1. Amputated left lower limb at hip joint.



Fig. 2. Disarticulated left hip joint.



Fig. 3. Amputated left leg at ankle joint.

5. An obliquely placed laceration measuring 12×1 cm, muscle deep over the anterior surface of right thigh in its upper aspect (Fig. 1).
6. An obliquely placed laceration measuring 4×2 cm, muscle deep over the anterior surface of right thigh, 3 cm below the injury no. 5 (Fig. 1).
7. An obliquely placed laceration measuring 14×9 cm, bone deep over the lateral surface of right thigh in its middle one third. Lower margin of the wound was abraded.
8. An obliquely directed grazed abrasion measuring 14×8 cm over the posterior surface of right chest.



Fig. 4. Fishing net with pulley.

2.1.1. Internal examination

The left side of scrotum was lacerated with contusion of left testis. The lower part of abdominal wall and peritoneum were lacerated on the left side. Mesenteric contusions were present. The iliac vessel was lacerated on left side.

All the internal organs were pale.

2.1.2. Cause of death

Hemorrhage due to severance of the blood vessels.

3. Discussion

The hazardous work conditions faced by the fishermen such as isolated fishing grounds, high winds, seasonal darkness, very cold water, icing, and short fishing seasons have a strong impact on their safety. Being in water they are susceptible to attack by aquatic predators and contact with sharp pointed tools for hunting exposes them to the risk of injury.

Fishing related trauma can present itself in a variety of ways. Preparing, shooting and hauling of the gear and nets accounts for 50% of injuries, most of which are fractures

and sprains.¹ Fishing related injuries can result from being entangled, struck or crushed by equipments and from falling overboard.^{2,3} Hand trauma is common in sailors due to hard physical labor.⁴ Entangling of clothes in rotating propulsion shafts⁵ and limbs in ribbon blenders of fish processing plants⁶ are also known to cause fatal trauma. Deaths due to injury by a collapsed boom⁷, grease fittings⁸, deck winches⁹ and due to outboard motor propeller¹⁰ have been reported. Isolated cases of nonfatal accidental ingestion of fishhooks¹¹, ocular trauma due to fishing hook¹², facial trauma due to fishing harpoon¹³ and fishing-line sinker¹⁴ have also been reported. In addition, electrical injuries caused by highly conductive graphite fishing rods touching the overhead electric cables have been reported.¹⁵

The present case stresses on the fatality of fishing net trauma. Fishing nets are usually made up of nylon, polypropylene, polythene, cotton yarn, etc. (Fig. 4). The net is spread over a large area to hang vertically in the water by attaching weights along the bottom edge and floats along the top. This is connected by multiple nylon ropes at the periphery (Fig. 5), which in turn are connected by a main rope to the pulley. The moment of pulling the net



Fig. 5. Fishing net with nylon ropes.

is critical as lot of things happen in a short span of time. If proper care is not taken, fisherman can get entangled in the net and sustain injuries. In the present case, multiple injuries to body, amputation of lower limb and severance of iliac vessels were caused by entangling in the fishing net. The extensive blood loss and unavailability of immediate treatment resulted in death.

Fishing as a sport and occupation can cause variety of injuries, fatal as well as non-fatal. Being in an isolated environment, harsh weather conditions and unavailability of immediate treatment are the main reasons for disabilities and fatalities.

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